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Doubtless other observers who have taken an interest in this question of an invisible disturbing body have already commenced observations similar to those given here. I trust that this is so, and that they will be systematically continued until sufficient data are obtained to settle the point definitely by the best evidence of all.

Chicago: 1892 *October* 17.

On the Orbit of Σ 2525. By J. E. Gore.

A recent measure of this binary star made by Mr. Burnham with the 36-inch refractor of the Lick Observatory shows that the companion has described about 288° of its apparent ellipse since its discovery by Struve in 1830. I have computed the orbit by the Glasenapp-Kowalsky method, and find the following provisional elements:—

Elements of Σ 2525.

$P = 138{\cdot}54$ years. $\Omega = 78^\circ\ 19'{\cdot}5$
$T = 1887{\cdot}12$ $\lambda = 4^\circ\ 19'$
$e = 0{\cdot}802$ $a = 0''{\cdot}75$
$i = 54^\circ\ 0'$ $\mu = -2^\circ{\cdot}5984$

The following is a comparison between the measures used in calculating the orbit and the positions computed from the above elements. Some of the measures are rather discordant.

Epoch.	Observer.	θ_o	θ_c	$\theta_o - \theta_c$	ρ_o	ρ_c	$\rho_o - \rho_c$
		°	°	°	″	″	″
1830·43	Struve	255·9	257·3	−1·4	1·33	1·32	+0·01
1836·14	”	255·5	255·5	0·0	1·30	1·28	+0·02
1840·56	O. Struve	251·8	254·1	−2·3	1·04	1·24	−0·20
1840·62	Dawes	255·5	254·1	+1·4	1·25	1·24	+0·01
1840·70	O. Struve	252·4	254·1	−1·7	1·28	1·24	+0·04
1840·84	”	253·1	254·0	−0·9	1·52	1·24	+0·28
1842·41	Mädler	251·0	253·5	−2·5	0·82	1·21	−0·39
1843·69	”	254·0	253·1	+0·9	0·95	1·20	−0·25
1854·63	O. Struve	246.8	248·5	−1·7	1·05	1·05	0·0
1856·61	Secchi	247·1	247·7	−0·6	0·85	1·01	−0·16
1865·22	Dembowski	240·8	242·3	−1·5	0·60	0·81	−0·21
1865·48	Engelmann	253·6	242·2	(+11·4)	0·73	0·80	−0·07
1865·64	Secchi	239·9	242·1	−2·2	0·40	0·80	−0·40
1865·76	O. Struve	241·5	242·0	−0·5	0·74	0·80	−0·06
1865·80	”	242·4	242·0	+0·4	0·73	0·80	−0·07
1872·61	”	234·0	234·8	−0·8	0·66	0·60	+0·06

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Epoch.	Observer.	θ_o	θ_c	$\theta_o - \theta_c$	ρ_o	ρ_c	$\rho_o - \rho_c$
		°	°	°	″	″	″
1872·64	Wilson and Seabroke	232·6	234·8	−2·2	...	0·60	
1873·54	Ferrari	241·1	233·4	+7·7	...	0·57	
1873·57	„	225·8	233·3	−7·5	0·5	0·57	−0·07
1873·61	Dembowski	233·4	233·3	+0·1	0·6	0·57	+0·03
1873·65	Wilson and Seabroke	232·1	233·3	−1·2	...	0·57	
1874·75	„ „	237·8	231·2	+6·6	0·5	0·53	−0·03
1874·84	Gledhill	234·2	231·0	+3·2	0·48	0·52	−0·04
1875·65	Schiaparelli	232·1	229·4	+2·7	0·45	0·49	−0·04
1875·66	Wilson and Seabroke	233·6	229·4	+4·2	...	0·49	
1877·01	Schiaparelli	230·1	225·9	+4·2	0·37	0·43	−0·06
1877·82	Dembowski	238·0	223·7	(+14·3)	...	0·41	
1879·71	Hall	213·2	216·1	−2·9	0·33	0·32	+0·01
1880·61	Doberck	218·85	210·8	+8·05	...	0·28	
1880·67	Schiaparelli	217·8	210·5	+7·3	0·32	0·28	+0·04
1880·81	Doberck	201·16	209·8	−8·64	...	0·28	
1887·7	Schiaparelli	Single with 18-inch refractor				0·15	
1891·40	Burnham	343·4	342·8	+0·6	0·18	0·18	0·0
1892·422	„	328·3	328·3	0·0	0·27	0·21	+0·06

Assuming that the mass of the system is equal to the mass of the Sun, the "hypothetical parallax" would be

$$p = \frac{a}{P^{\frac{2}{3}}} = 0''{\cdot}028.$$

The magnitudes of the components are, according to Struve, 7·4, 7·6; and the approximate position of the star for 1880·0 is

R.A. $19^{\text{h}}\ 21^{\text{m}}{\cdot}7$
Decl. +27° 8′

It lies about $1\frac{1}{4}$° *s.p.* *β Cygni.*

The Orbit of γ Coronæ Australis. By R. P. Sellors, B.A.

(*Communicated by H. C. Russell, B.A., F.R.S.*)

The general equation of the apparent ellipse was found by Glasenapp's method, and the geometrical elements deduced therefrom by the formulæ of Kowalsky. The dynamical elements were determined from five equations of mean motion.

Elements.

P = 121·24 years
T = 1879·33
$e = 0{\cdot}33096$
$i = 35°\ 37$

☊ = 57° 57′
$\lambda = 181°\ 5'$
$a = 2''{\cdot}191$
$\mu = -2°{\cdot}9694$

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